meap

Michigan Educational Assessment Program

Grade 4
Mathematics

Constructed Response Scoring Guides
Fall 1996

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GRADE 4
MEAP MATHEMATICS SCORING GUIDES

These scoring rubrics are provided to help evaluate and score the constructed response items on the 1996 MEAP Mathematics Test, Grade 4. For each item, a solution is given as well as actual student responses with annotations explaining the score point given.

General Recommendations and Guidelines

- Studying the sample student responses and annotations will help you understand the essence of what is expected at each score point for a particular question. Keep in mind that these sample student responses represent only a few of the many possible responses for a given score point.

- To ensure the accuracy and consistency of your scoring, keep the following in mind:

    1. Continually review the scoring rubric, the annotated score guide and student samples, especially when you are in doubt regarding a particular student response.

    2. Do not judge one student's paper by another. Instead, apply the same objective standards to each paper by evaluating the response in terms of the scoring rubric and guides.

    3. It is advisable to devise a method to conceal student names when scoring the papers.

    4. Review papers you scored earlier in the process to make sure you are using the same standards.

    5. Do not think that length is synonymous with quality. A long response may be redundant, wordy or vague.

    6. Do not allow the issues of handwriting, spelling, or grammar to affect your ability to score.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.

Solution

Both measures could be correct. The reason given should include the idea that two different units (nonstandard) were used to measure the same length. An explanation regarding the size of the nonstandard units used should also be given. The smaller the unit used, the greater the number of units needed to measure a given length. Lauren must have used a smaller unit than Daniel since she found the length to be 24 units compared to Daniel's 19 units.

GRADE 4
LAUREN AND DANIEL
SCORING RUBRIC

3 POINTS Response contains all three of the following components:

- Both measures could be correct.
- Two different units were used.
- The smaller the unit, the more needed to cover the same length.

2 POINTS Response contains two of the three components described above.

OR

Response implies or states an assumption that the same units were used to measure the length. In this case, the answer would be that both measures could not be correct. The explanation should include that one of the children measured incorrectly or measured a different distance than the other child.

1 POINT Response contains one of the three components described above.

OR

Response implies or states an assumption that the same units were used to measure the same length, therefore, both of the children should have gotten the same answer.

0 POINTS Response does not contain any of the three components described above.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

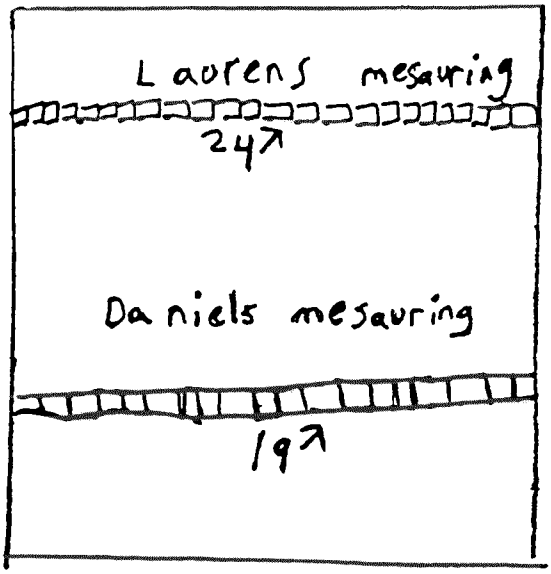
Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.

yes I think their both right because Daniel might of used big units and Lauren used small ones.

3 POINTS - All three components are included in the response.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.

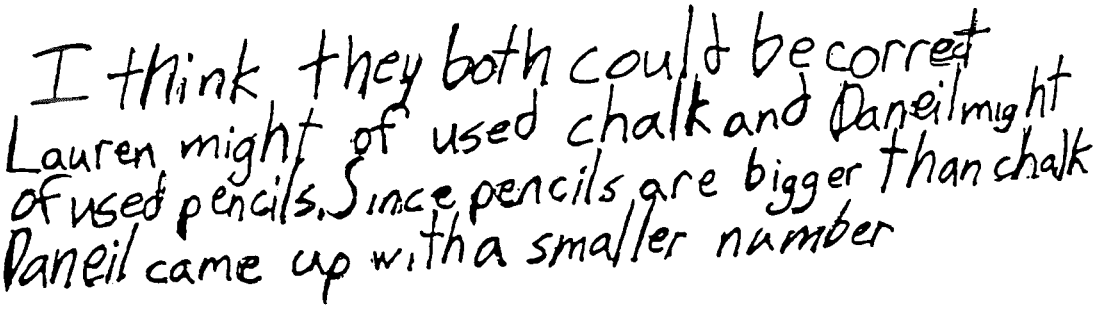


yes they both could be correct.
because the length of
the units could be different units
Daniel will be fewer units because the
are longer

3 POINTS - All three components are included in the response.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

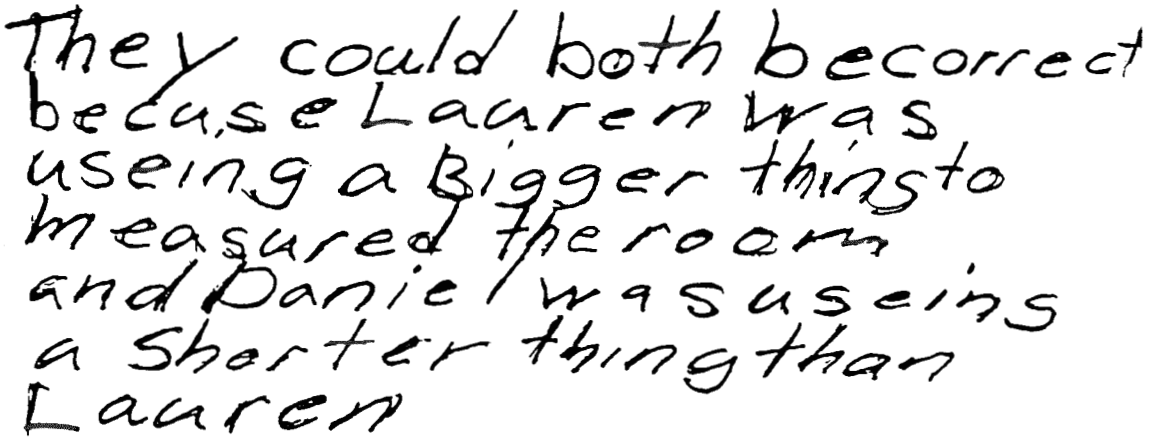
Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.



3 POINTS - All three components are included in the response.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.



***2 POINTS** - Two of the components are included in the response: both students could be correct because they each used a different unit. This response, however, confuses the issue of the size of the units. Lauren's unit must have been smaller than Daniel's unit, not larger.*

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

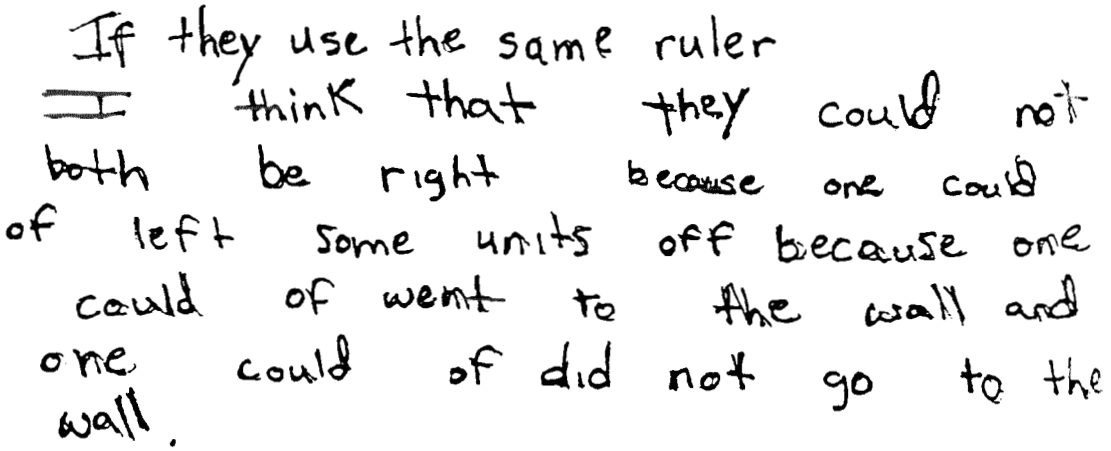
Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.

I think Daniel is useing big pencils to measure the room and Lauren is useing medim pencils

2 POINTS - Two of the components are included in the response: the use of different units and the size of the units. This response did not state that both children could be correct.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

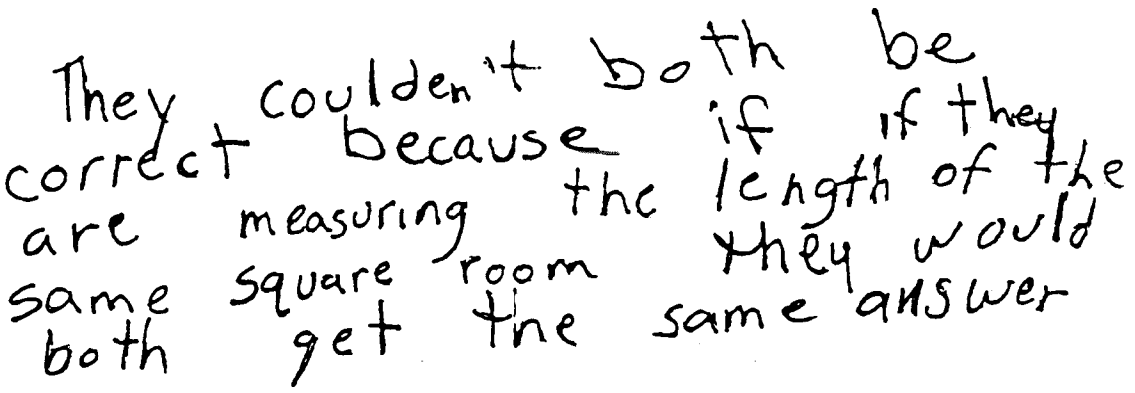
Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.



2 POINTS - Response assumes that the same unit was used by both students, so one of them must have measured a longer distance than the other.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

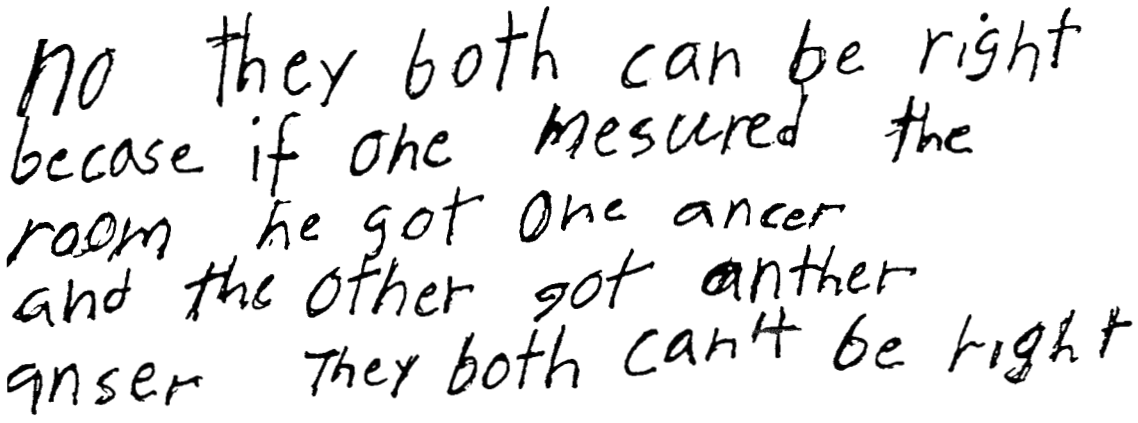
Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.



1 POINT - Response implies that both students used the same unit to measure the same distance, therefore, they should have gotten the same answer.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

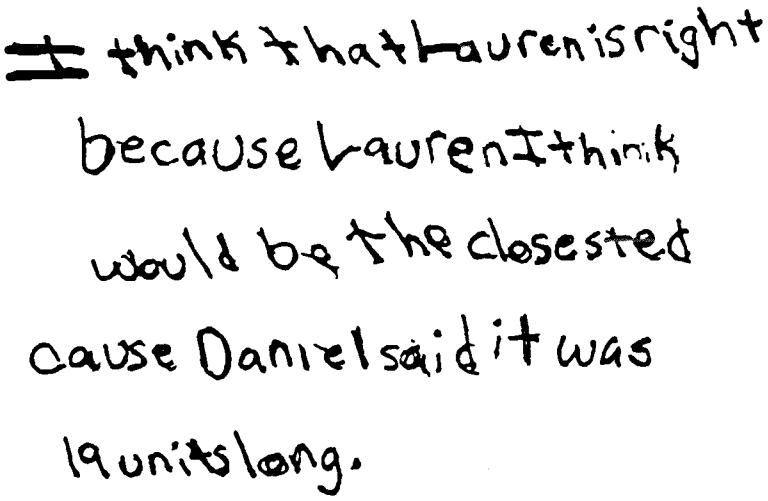
Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.



1 POINT - Response implies that both students used the same unit to measure the same distance, therefore, they should have gotten the same answer.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

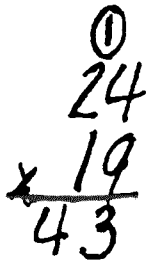
Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.



0 POINTS - Response is incorrect with no logical explanation given.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Lauren and Daniel each measured the length of the same square room. Lauren said the room was 24 units long and Daniel said it was 19 units long. Could they both be correct? Write an explanation for your thinking.



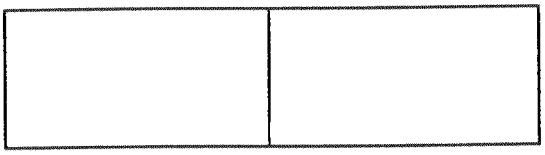
0 POINTS - Algorithm is unrelated to the problem.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

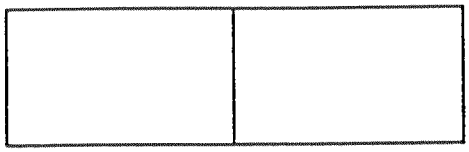
Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

Solution

Kasia could have gotten more candy than Lily. Since Bob took a half from two different candy bars, the half piece that Kasia received must have come from a bigger (longer, thicker, etc.) candy bar than the candy bar from which Lily received her half piece. The major focus should be on the idea that halves are equal only if the wholes from which they came are the same size. A picture representing the written explanation should also be included.



Kasia's Candy Bar



Lily's Candy Bar

GRADE 4
BOB, KASIA, AND LILY
SCORING RUBRIC

3 POINTS

Response includes the following:

- Kasia got more candy.
- The size of the two candy bars were different. Kasia's candy bar was bigger than Lily's bar.
- A picture showing two different size bars (halves).

2 POINTS

Response includes two of the three components described above.

OR

A yes response with an implied assumption that the candy bars were the same size and an explanation that Bob measured the halves incorrectly. In this case, the picture would show two candy bars of the same size but cut unevenly.

1 POINT

Response includes one of the components described above.

OR

Response implies an assumption that the two candy bars are the same size so the halves must be equal. A picture showing this explanation may be included.

0 POINTS

Response states "no" with no written or pictorial explanation.

OR

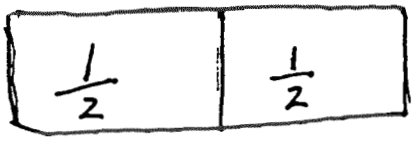
The explanation or picture given does not support the answer.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

Yes
She Might have More because one Might be Longer

Kasia



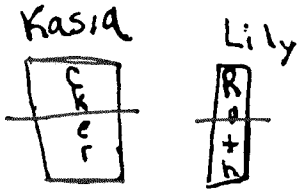
Lily

3 POINTS - All three components (including a descriptive picture) are in the response.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

Yes! one could of been bigger thicker. because it was a different candy bar.

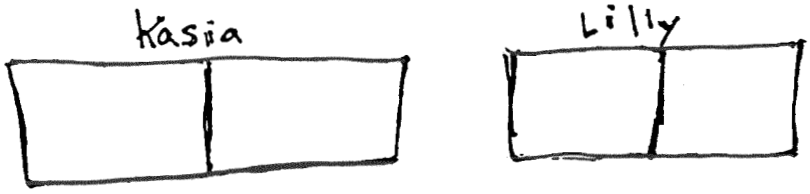


3 POINTS - All three components (including a descriptive picture) are in the response.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

Yes because Kasia got half of one candy bar and Lilly got a half of the other candy bar And they might be uneven



becauseThe two candy bars are notThe same size

3 POINTS - All three components (including a descriptive picture) are in the response.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

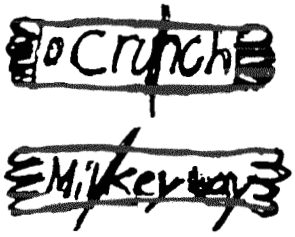
Yes, because when they said one of the candy bar the other candy bar might be smaller.

***2 POINTS** - Response includes two of the three components: Kasia could have gotten more candy if Lily's half came from a smaller candy bar. Response does not include a picture.*

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

Yes it can be true because if Bob doesn't have a ruler to masure it and he could accisdently give Kasia more than lily.

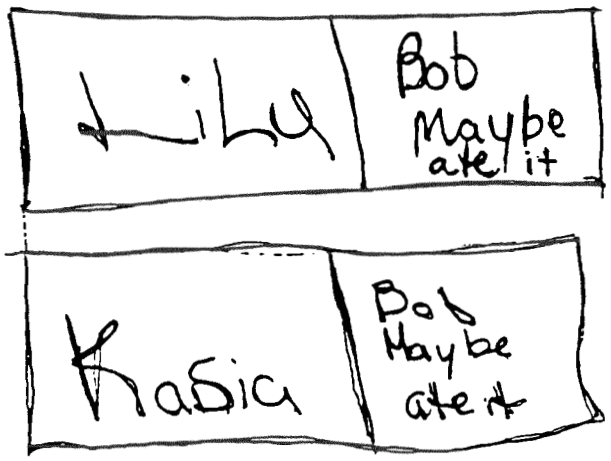


***2 POINTS** - Response and picture assume that the two candy bars were the same size and Kasia could get more if Bob improperly cut the bars in half.*

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

No,
Because they both got the same amount of the candy bars. Just one got another bar.

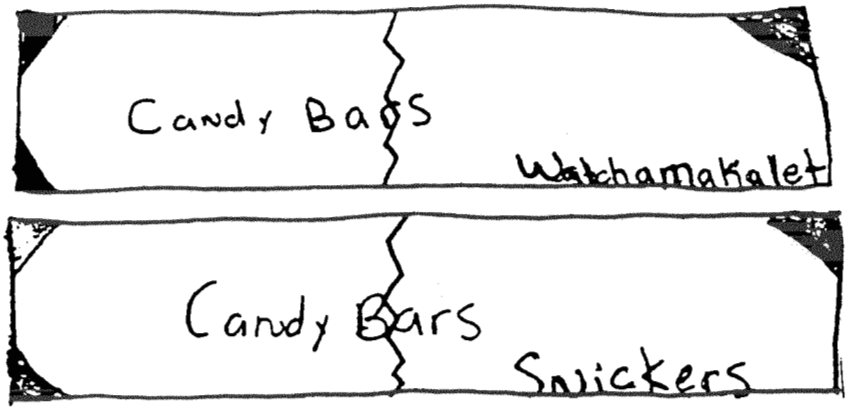


1 POINT - Response and picture assume that the two candy bars were the same size, therefore, both girls received the same size half.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

No I dont think That Kasia got a bigger Piece Than Lily Got because bob said he had Two candy bars and he said That he Gave Kasia one halfe of one candy bar and lily another half of a candy bar because the candybars are equal.



1 POINT - Response and picture assume that the two candy bars were the same size, therefore, both girls received the same size half.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

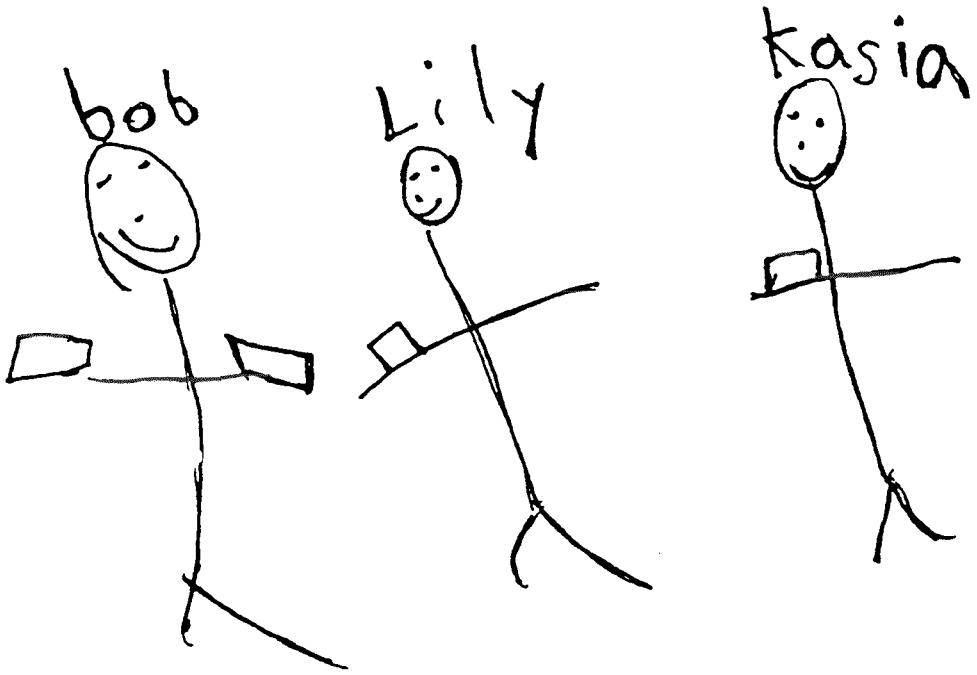
Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.

NO Because Bob had one-half candy Bar

0 POINTS - The response does not include any of the three components listed in the rubric.

Directions: Solve the following problem. There may be more than one way to answer correctly. Show as much of your work as possible.

Bob had two candy bars. He gave Kasia one-half of one of the bars and Lily one-half of the other bar. Lily said that Kasia got more candy. Could that be true? Write an explanation for your thinking and draw a picture to support it.



0 POINTS - The picture does not provide an answer to the problem, nor does the response provide any written explanation.